



NAWI Graz
GEOCENTER



*NAWI Graz Geocenter: Institute of Earth Sciences, Karl-Franzens University of Graz
Institute of Applied Geosciences, Graz University of Technology
Mineralogy–Center of Natural History, Universalmuseum Joanneum*

MinPet2019

Mineralogy and Petrology

Program

September 4-7, 2019

Graz, Austria

*Biennial Meeting of
The Austrian Mineralogical Society*



MEETING

The MinPet2019 meeting will be held September 4th to 6th 2019 at Graz University of Technology and is organized by the NAWI Graz Geocenter (Institute of Earth Sciences, Karl-Franzens University of Graz; Institute of Applied Geosciences, Graz University of Technology; and Mineralogy – Center of Natural History, Universalmuseum Joanneum), under the auspices of the Austrian Mineralogical Society. The scientific program covers a broad spectrum from fundamental to applied research in mineralogical and petrological sciences and its related disciplines. Topics will be presented as oral or poster presentations. The scientific program will be complemented by field excursions. The conference languages are German and English.

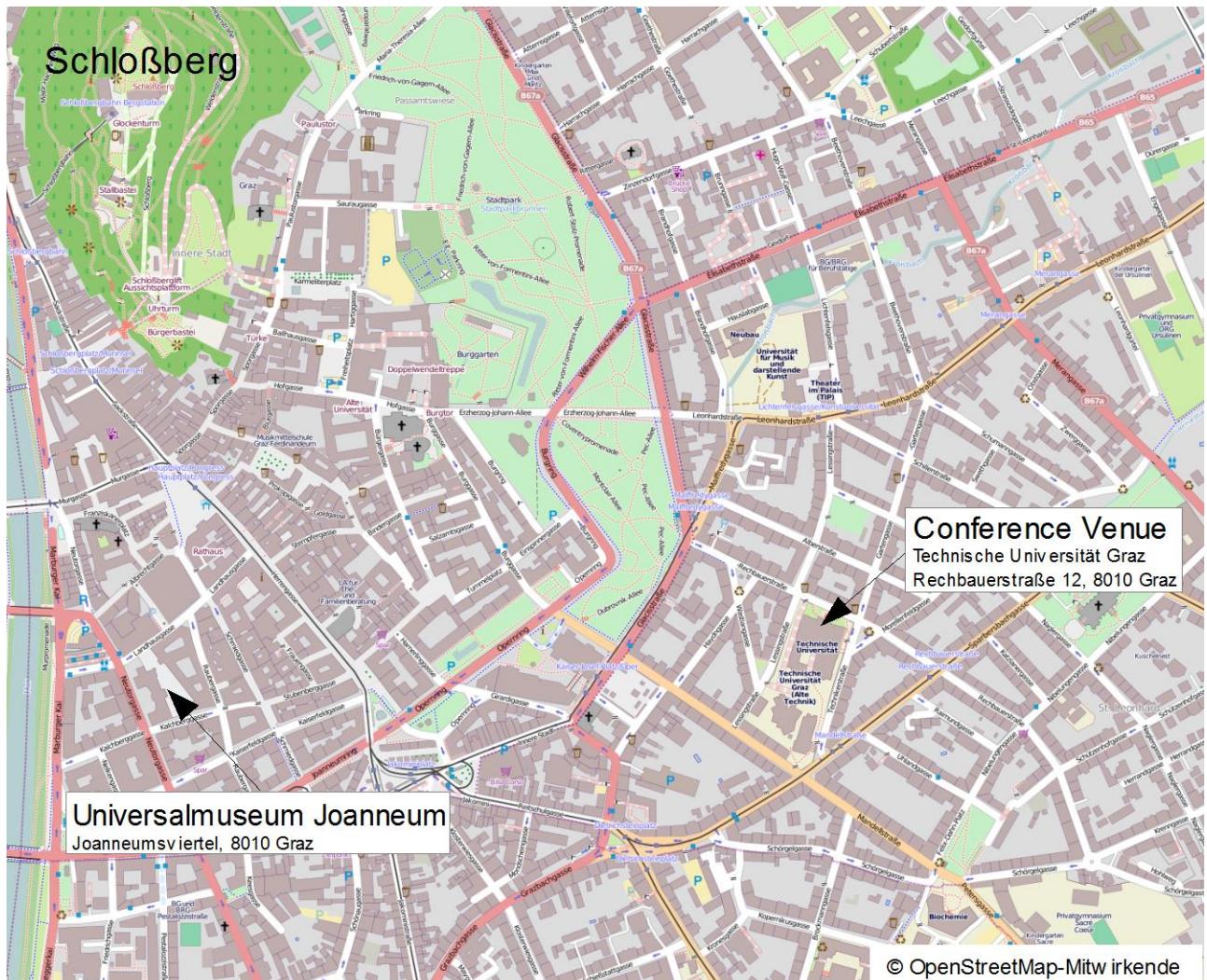
Speakers of the Organizing Committee:

M. Dietzel	martin.dietzel@tugraz.at	+43-316-873-6360
C. Hauzenberger	christoph.hauzenberger@uni-graz.at	+43-316-380-5542
B. Moser	bernd.moser@museum-joanneum.at	+43-664-8017-9741

Conference webpage: <http://minpet2019.tugraz.at>

CONFERENCE VENUE

The conference will be held at Graz University of Technology, Campus “Alte Technik”, Rechbauerstraße 12, 8010 Graz. The opening ceremony and public lecture will take place at the Universalmuseum Joanneum, Joanneumsviertel, 8010 Graz.



PROGRAM

SESSION 1: Mineralogy, Crystallography & Environmental Geochemistry

(Conveners: Andre Baldermann, Martin Dietzel and Eugen Libowitzky)

This session covers all topics about new minerals and their classification; crystal chemistry; crystal structure solution; development and applications of analytical methods; topotaxis of rock forming minerals, etc. Research studies on weathering, alteration and neo-formation of minerals; fluid-rock interactions; adsorption and transport processes; aqueous geochemistry; elemental and isotopic proxies; hydrochemical modelling; natural and anthropogenic environments; biomineralization; forensics; laboratory experiments, etc. are also welcome.

SESSION 2: Petrology, Geochemistry & Geochronology

(Conveners: Daniela Gallhofer and Christoph Hauzenberger)

This session focuses on (1) metamorphic petrology dealing with mineral equilibria, PT evolution of rocks, timing and duration of metamorphism/reactions, crustal/mantle fluid related processes; (2) magmatic petrology and geochemistry including recent analytical developments; and (3) various aspects in geochronology.

SESSION 3: Applied Mineralogy, Ores & Geomaterials

(Conveners: Dietmar Klammer and Bernd Moser)

This session includes research on raw materials (metals, industrial minerals, building stones, etc.); material sciences; genesis of ore and mineral deposits; cements and ceramics; archaeometry, technical applications and field studies.

SCHEDULE

Wednesday, September 4th, 2019: Universalmuseum Joanneum, Joanneumsviertel, Raubergasse 10, 8010 Graz

17:00-18:00: Registration at Joanneum, free visit of geoscience collection (without guide)

18:00-18:45: Opening Ceremony

18:45-19:00: Friedrich-Becke Medal to **Prof. Dr. Nikolay V. Sobolev**, ÖMG Honorary Membership to **Prof. Dr. Herta Effenberger**

19:00-20:00: Public Lecture by **Prof. Dr. Nikolay V. Sobolev: "Significance of mineral and fluid inclusions in diamonds and their indicator minerals"**

20:00-22:00: Icebreaker Party

Thursday, September 5th, 2019: Technische Universität Graz, Rechbauerstrasse 12, 8010 Graz, Hörsaal I

08:00-09:00: Registration at TU Graz

SESSION 2: Petrology, Geochemistry & Geochronology

09:00-09:30: Keynote Lecture by Finger, F.: Variscan I-Type granitoids in the Eastern Alps and their geodynamic setting: An updated discussion based on new geochronological results

09:30-09:50: Lindner, M., Dörr, W., Reither, D. & Finger, F.: The Lower Austrian Drosendorf Unit - the trailing edge side of the Avalonian Superterrane?

09:50-10:10: Sorger, D., Hauzenberger, C., Finger, F. & Linner, M.: Monazite Ages in high-grade metapelites from the Austrian part of the Bohemian Massif: Insight into a complex polyphase metamorphic evolution

10:10-10:30: Asenbaum, R., Petrishcheva, E., Racek, M., Lexa, O., Gaidies, F. & Abart, R.: Sieve structure and secondary compositional zoning in garnet from mafic granulites of the Gföhl Unit, Moldanubian Zone, Lower Austria

10:30-11:00: Coffee Break

11:00-11:20: Proßegger, P., Ntaflos, T., Ackerman, L., Hauzenberger, C., Tran, T. A. & Erban, V.: Moderate melt depleted anhydrous mantle xenoliths underneath Central Vietnam: Evidence for stabilization of the lithospheric mantle before Meso-Proterozoic times

11:20-11:40: Ntaflos, T., Abart, R., Papadopoulou, M., Bjerg, E. A. & Hauzenberger, C.: Rock-melt reaction and small scale heterogeneities in the lithospheric mantle underneath N. Patagonia, Argentina

11:40-12:00: Schorn, S. & Stüwe, K.: On the hydration of high grade metamorphic terranes

12:00-12:20: Tropper, P., Degenhart, G., Chiste, R. & Angerer, T.: Visualizing fluid-mediated rock transformations using micro-CT and micro-XRF: The Bärofen metagabbro

12:20-12:40: Leitner, C. & Finger, F.: Two different basalt provinces (MORB vs. WPB) in the evaporitic Permian Haselgebirge Formation (Eastern Alps, Austria) and possible tectonic implications

12:40-15:00: Lunch Break and Poster Session

Name	Poster Session 1: Mineralogy, Crystallography & Environmental Geochemistry
Ageeva Olga	Ageeva, O., Pilipenko, O., Markov, G., Pertsev, A. & Abart, R.: Plagioclase-hosted Fe-Ti-oxide micro-inclusions and bulk-rock magnetism of oceanic gabbro
Giester Gerald	Giester, G., Rieck, B. & Lengauer, C.L.: Phosphorous-rich philipsburgite, a new mineral species from Lavrion, Greece
Götschl Katja	Goetschl, K.E., Mavromatis, V., Purgstaller, B. & Dietzel, M.: Experimental determination of sulfate incorporation in calcite, Mg-calcite and aragonite
Kahlenberg Volker	Kahlenberg, V., Galusquina, I., Krüger, B., Pauluhn, A. & Galuskin, E. : Structural investigations on bredigite ($\text{Ca}_7\text{Mg}(\text{SiO}_4)_4$) from the Hatrurim Complex
Kasinger Ruth	Moser, U., Scheiblhofer, E., Baldermann, A., Hippler, D. & Kasinger, R.: Groundwater and land use strategies for the Tos, Morocco inferred from mineralogical, hydrochemical and isotopic investigations
Kaspar Markus	Kaspar, M., Kieffer, D. S. & Leis, A.: The Dangkhar breccia: insights on the formation from remote, field and laboratory based investigations
Krzatała Arkadiusz	Arkadiusz Krzatała, Biljana Krüger, Irina Galusquina, Hannes Krüger, Yevgeny Vapnik, Evgeny Galuskin: Potentially new Ba, Fe- melilite from Gurim anticline, Hatrurim Complex, Israel

Landler Andreas	Landler, A., Baldermann, A., Mittermayr, F., Letofsky-Papst, I., Steindl, F., Galan, I. & Dietzel, M.: Incorporation of ME ions (Co, Cr and Zn) during calcium-aluminium-silicate-hydrate and trioctahedral smectite formation
Preissegger Veronika	Preissegger, V., Baldermann, A., Landler, A., Steindl, F., Letofsky-Papst, I., Šimić, S., Eichinger, S. & Dietzel, M.: Incorporation of heavy metals (Co, Cu, Zn) in synthetic calcium-aluminium-silicate-hydrate (C-A-S-H) gel structures: Environmental implications for metal ion transport in aqueous media
Purgstaller Bettina	Purgstaller, B., Letofsky-Papst, I., Goetschl, K. E., Mavromatis V. & Dietzel, M.: Nano-scale investigation of amorphous Ca-Mg carbonate by S-TEM
Sammer Thomas	Sammer, T., Neuhold, S. & Vollprecht, D.: Effect of SiO ₂ addition on the mineralogy of EAF slags
Stammeier Jessica	Stammeier, J.A. , Hippler, D., Nebel, O. & Dietzel, M.: Magnesium isotope evidence for enhanced crustal reworking in earliest Cambrian sediments – A case study from Kazakhstan
Tropper Peter	Schifferle, L., Tropper, P. & Hauzenberger, C.: Trace element concentrations of quartz from alpine fissures
Walter Franz	Walter,F. & Bojar, H.-P. Baviuite, Ba ₂ V ₂ O ₂ [Si ₄ O ₁₂], a new silicate mineral species with single 4-rings
Wedenig Michael	Wedenig, M., Eichinger, S., Wagner, H., Leis, A., Boch, R. & Dietzel, M.: Monitoring and modeling of Calcite precipitation kinetics induced by CO ₂ exchange dynamics - experiments in a railway tunnel

Name	Poster Session 2: Petrology, Geochemistry & Geochronology
Fleck Barbara	Fleck, B.& Ntaflos Th.: The evolution of the Steinberg volcano, Styrian Basin
Frank Nils	Frank, N., Hauzenberger, C., Schuster, R., He, D., Gallhofer, D., Kurz, W.: New hints of varying provenance and protolith ages of different metasedimentary complexes of the Koralpe-Wölz nappe system (Eastern Alps)
Haas Isabella	Haas, I., Eichinger, S., Haller, D., Fritz, H., Nievoll, J., Mandl, M., Hippler, D. & Hauzenberger, C.: Gondwana fragments in the Eastern Alps: A travel story from U/Pb zircon data
Hauzenberger Christoph	Hauzenberger, C., Konzett, J. & Nguyen, H.: Modal and cryptic mantle metasomatism in xenoliths from Central and Southern Vietnam
Heuser David	Heuser, D., Klötzli, U. & Abart, R.: Petrochronology of temperature-dominated metamorphic processes: Petrology and dating of accessory minerals from the Ivrea Verbano Zone, Italy
Husar Martina	Husar, M., Mikulics, A. & Krenn, K.: Fluid-inclusions from permian pegmatites of the Eastern Alps
Lechner Nikolaus	Lechner, N., Hauzenberger, C., Fernando, G.W.A.R., & Masten, M.: Monazite dating and petrology of cordierite bearing gneisses from the Highland Complex - Wanni Complex boundary, Sri Lanka
Masten Marcel	Masten, M., Hauzenberger, C.A., Fernando, G.W.A.R. & Lechner, N.: Petrology and geochemistry of magmatic gneisses from the Wanni Complex, Sri Lanka
Nagl Peter	Nagl, P. & Mader, D.: X-ray fluorescence (XRF) and instrumental neutron activation analysis (INAA) for the geochemical analysis of rocks, presented on in-house control samples
Nong Thi Quynh Anh	Nong, A.; Hauzenberger, C., Gallhofer, D., Nguyen, H., Pham, H., Dinh, S.: Geochemistry and zircon U-Pb geochronology of igneous rocks from Southwestern Vietnam and Southeastern Cambodia
Petrishcheva Elena	Petrishcheva, E. & Abart, R.: A model for multicomponent diffusion in ionic crystals
Schantl Philip	Schantl, P., Hauzenberger, C., Finger, F., Linner, M., Nguyen, H.: The pre-metamorphic history of Moldanubian granulites and Gföhl Gneiss in Lower Austria (Bohemian Massif): Constraints from trace elements and U-Pb ages of zircons and whole-rock geochemistry
Schantl Philip	Schantl, P., Hauzenberger, C., Linner, M.: Eclogites and garnet bearing pyroxenites in the Ostrong Unit of the Moldanubian Zone (Lower Austria): Geochemistry and petrology
Skrzypek Etienne	Skrzypek, E. & Bosse, V.: Prograde to retrograde monazite (re)crystallization in medium-grade metasedimentary rocks from the Orlica-Śnieżnik Dome (Czech Republic / Poland)
Stüwe Kurt	Stüwe, K. and Schorn, S.: The TBt-diagram, an alternative to pseudosections?
Tropper Peter	Bierbaumer, K. & Tropper, P.: Petrologie und Phasenbeziehungen in Charnockiten aus Indien und Sri Lanka
Wacharapornpinthu Phattarawadee	Wacharapornpinthu, P., Limtrakun, P. & Srichan, W.: Preliminary study: Tectonic Settings of Granitoid in Uttaradit Province, Thailand

For all Poster sessions: Please prepare poster in format A0 portrait (84 cm wide, 119 cm high).

SESSION 1: Mineralogy, Crystallography & Environmental Geochemistry

15:00-15:30: Keynote Lecture by Brazier, J.-M., Schmitt, A.-D., Gangloff, S., Pelt, E., Göcke, M. I. & Wiesenberg, G. L. B.: Multi-isotopes approach ($\delta^{44}/^{40}\text{Ca}$, $\delta^{88}/^{86}\text{Sr}$ and $^{87}\text{Sr}/^{86}\text{Sr}$) of rhizoliths formation mechanisms in terrestrial sediments of Nussloch (Germany)

15:30-15:50: Kell-Duivestein, I. J., Baldermann, A., Mavromatis, V. & Dietzel, M.: Kinetics of compositional and structural maturation of dolomite and magnesite (150 - 220 °C) – an experimental approach

15:50-16:10: Sutter, C., Habler, G., Ferriere, L., Abart, R.: Phase relations and micro-structures in a fulgurite from weathered granite

16:10-16:30: Kahlenberg, V., deVilliers, J., Krüger, H., Odendaal, D., Krüger, B., Albrecht R., Schmidmair, D., Tribus, M. & Pauluhn, A.: News from refractory land – two novel phases in the systems CaO-Al₂O₃-Cr₂O₃ and CaO-Al₂O₃-MgO

16:30-16:50: Kruzslucz, Á. B., Nasdala, L., Wildner, M., Škoda, R., Redhammer, G., Hauzenberger, C. & Wanthanachaisaeng, B.: Gem-quality black spinel from Bo Phloi, Thailand

16:50-17:10: Kaindl, R., Bayer, B. C., Monazam, M. R. A., Susi, T., Kotakoski, J., Gupta, T., Eder, D. Waldhauser, W. & Meyer, J. C.: Atomic-scale crystallization and restructuring of two-dimensional MoS₂

19:00-22:00 Galadinner at Gösserbräu, Neutorgasse 48, 8010 Graz

Friday, September 6th, 2019: Technische Universität Graz, Rechbauerstrasse 12, 8010 Graz, Hörsaal I

SESSION 3: Applied Mineralogy, Ores & Geomaterials

09:00-09:30: Keynote Lecture by Nilica, R. & Majcenovic, C.: Challenges and new technologies in the field of refractory materials

09:30-09:50: Melcher, F., Onuk, P., Schwabl, S., Zimmermann, M. & Aiglsperger, T.: Rhenium sulphides and Platinum-group minerals at Haidbach/Pinzgau – recent results

09:50-10:10: Bertrandsson Erlandsson, V., Wallner, D., Ellmies, R., Melcher F. & Raith, J. G.: A new sediment-hosted Cu-Co deposit in the Kunene region, Northwestern Namibia

10:10-10:30: Altenberger, F., Raith, J. G., Bakker, R. J. & Zarasvandi, A.: The epithermal Chah-Mesi Cu-Pb-Zn-(Ag-Au) deposit, SE Iran: Ore mineralogy and fluid inclusions

10:30-11:00: Coffee Break

11:00-11:20: Krickl, R.: CoRL – eine neue Technik in der materialanalytischen Multispektralfotografie

11:20-11:40: Grengg, C., Mittermayr, F., Ukrainczyk, N., Koraimann, G. & Dietzel, M.: Geopolymer concrete – potential applications in chemically aggressive sanitation and waste infrastructure

11:40-12:00: Manninger, T. & Goetz-Neunhoeffer, F.: Impact of Li₂CO₃ on phase development during hydration of Calcium Aluminate Cement with calcite

12:00-12:20: Piribauer, C.J., Sänger, S., Engels, M., Rauch, L. & Kahlenberg, V.: Rehydroxylation of ceramic tiles and its influence on curvature effects after firing

12:20-15:00: Lunch Break and Poster Session

Name	Poster Session 3: Applied Mineralogy, Ores & Geomaterials
Ademeit Christian	Ademeit, Christian, Hauzenberger, Christoph, Brandl Michael: Lapis lazuli – petrological and geochemical characterization of raw material and archaeological artefacts
Anevlavi Vasiliiki	Prochaska, W., Anevlavi, V., Grech Licari J. & Ladstätter S.: Marble provenance analysis of Roman period artefacts from Villach – Stadtmuseum, Austria
Angerer Thomas	Angerer T., Volgger A., Tropper P., Onuk, P., Hauzenberger, C.: Rare metal mobility in a metamorphosed base metal deposit: The Schneeberg / Monte Neve Zn-Pb-(Cu-Ag) SHMS
Baumann Christian	Baumann, C., Sakoparnig, M., Dietzel, M. & Galan, I.: Growth of brucite on portlandite crystals
Eichinger Stefanie	Eichinger, S., Arbeiter, F., Boch, R., Schachinger, T. & Dietzel, M.: Influencing carbonate scaling by tailored drainage materials in tunnels - an experimental approach
Gaberz Stefanie	Dark Earth - Die schwarze Schicht
Gallhofer Daniela	Gallhofer, D. and Lottermoser, B.G.: Characterisation of heavy mineral sands by portable X-ray fluorescence (pXRF)
Hauzenberger Christoph	Brandl, M., Hauzenberger, Ch., Filzmoser, P., Martinez, M.M. & Alram-Stern, E.: Provenance analyses of chipped stone tools from neolithic Platia Magoula Zarkou, Thessaly (Greece)
Klammer Dietmar	Haspl, E., Lamm, S. & Klammer, D.: Archaeometric investigations of coarse pottery from roman times settlement areas in Styria and Burgenland, Austria
Melcher Frank	Melcher, F., Doppelmayer, D. & Dolenz, H.: Römische Goldmanufaktur am Magdalensberg (Kärnten): Mineralogische Untersuchung zur Herkunft des Goldes
Steindl Florian	Steindl, F. R., Baldermann, A., Galan, I., Juhart, J., Dietzel, M., & Mittermayr, F.: Comparing new testing methods for the sulfate resistance of shotcrete
Steiner Timotheus	Steiner, T. M. C. & Melcher, F.: Aplite Hosted Reichenspitze-type molybdenite mineralization in the Central Tauern Window, Salzburg/Tyrol)
Talla Dominik	Dominik Talla, Peter Nagl, Ondřej Merta, Martin Barák, Radek Škoda: Ancient iron smelting revisited by modern techniques: What makes an iron ore work?
Tropper Peter	Kronenberg, L., Keil, J., Tropper, P., Töchterle, U., & Degenhart, G.: Keramik als Prozessarchiv: Mineralogisch-petrographische Untersuchungen von frühbronzezeitlicher schlackengemagerter Keramik vom Buchberg bei Wiesing

For all Poster sessions: Please prepare poster in format A0 portrait (84 cm wide, 119 cm high).

15:00-15:20: Haspl, E., Lamm, S. & Klammer, D.: Archaeometric investigation on the temper of coarse pottery shards from Roman-times settlement areas in Styria and Burgenland, Austria

15:20-15:40: Rauch, L., Kahlenberg, V., Piribauer, C., Sänger, S. & Engels, M.: Thermal behavior of clay minerals beyond thermodynamic equilibrium

15:40-16:00: Schantl, P. & Majcenovic, C.: Corrosive reaction textures of fireclay caused by H₂SO₄ attack

16:00: Closing ceremony

FIELD TRIP

Wednesday (Sept., 4th): Koralpe Underground Geotechnical Laboratory, Styria, 50 €.

Saturday (Sept., 7th): Waldenstein Hematite Deposit (Underground), Carinthia, 30 €

Departure from TU Graz, Rechbauerstrasse 12, 8010 Graz, Main Entrance at 09:00; Return at approximately 16:00.

Please wear suitable outfit and, if available, please bring helmet and rubber boots.

REGISTRATION FEES

Basic registration fee for congress participants includes:

- Participation in scientific sessions
- Admission to the Opening Ceremony*
- Printed material of the conference
- Congress bag with proceedings
- Icebreaker Party*
- Coffee breaks

*Accompanying persons' registration fee includes the above items

Payment until June 30th is welcome (in €)

MinPet2019 costs	ÖMG-Members	Non-Members	Students	Accompanying person
Without Galadinner	140 €	160 €	50 €	40 €
With Galadinner	190 €	210 €	80 €	80 €

PAYMENT CONDITIONS

Pre-payment can be made by **bank transfer** payable to:

UniCredit Bank Austria

Recipient: Universität Graz, MinPet2019

IBAN: **AT32 1200 0500 9550 0605**

BIC: BKAUATWW

Internal order number: **A28165001023**

Important: Please do not forget to specify the internal order number (**A28165001023**) on your bank transfer details! Registrations will be acknowledged in written form. Official invoices and receipts for fees paid by the participants will be handed over on-site upon registration.

CANCELLATION POLICY

Cancellations are accepted only in written form. In the case of cancellation of registration received until **June 30th 2019**, the refund is 100%. From **July 1st to July 31st 2019**, the fee is 50%. No refund is possible for cancellations submitted after **July 31st 2019**.

ACCOMMODATION

Participants can find general information about accommodations in Graz (all categories), e.g. at <https://www.graztourismus.at>. For several hotels special rates are available. For further information and assistance please contact our secretaries Ms. Sylvia Umschaden (sylvia.umschaden@uni-graz.at) and Ms. Daniela Sobian (daniela.sobian@tugraz.at).

ORGANISERS

Christoph Hauzenberger, Karl-Franzens University of Graz; Institute of Earth Sciences

Martin Dietzel, Graz University of Technology; Institute of Applied Geosciences

Bernd Moser, Universalmuseum Joanneum; Natural History Museum; Section Mineralogy

ADDRESS FOR CORRESPONDENCE AND INFORMATION

Karl Ettinger (karl.ettinger@uni-graz.at)

MinPet2019 c/o Institute of Earth Sciences, Karl-Franzens University of Graz. Universitätsplatz 2, 8010 Graz. Phone: +43-316-380-5540 (Secretary: Fr. Sylvia Umschaden)

E-mail: minpet2019@tugraz.at

Homepage: <https://www.tugraz.at/events/minpet2019/home/>

PUBLICATION SUBCOMMITTEE

Karl Ettinger (karl.ettinger@uni-graz.at)

Andre Baldermann (baldermann@tugraz.at)

LOCAL ORGANISING COMMITTEE

Andre Baldermann (TUG)

Martin Dietzel (TUG)

Karl Ettinger (KFUG)

Daniela Gallhofer (KFUG)

Christoph Hauzenberger (KFUG)

Dorothee Hippler (TUG)

Dietmar Klammer (TUG)

Bernd Moser (Joanneum)

Peter Schreiber (TUG)